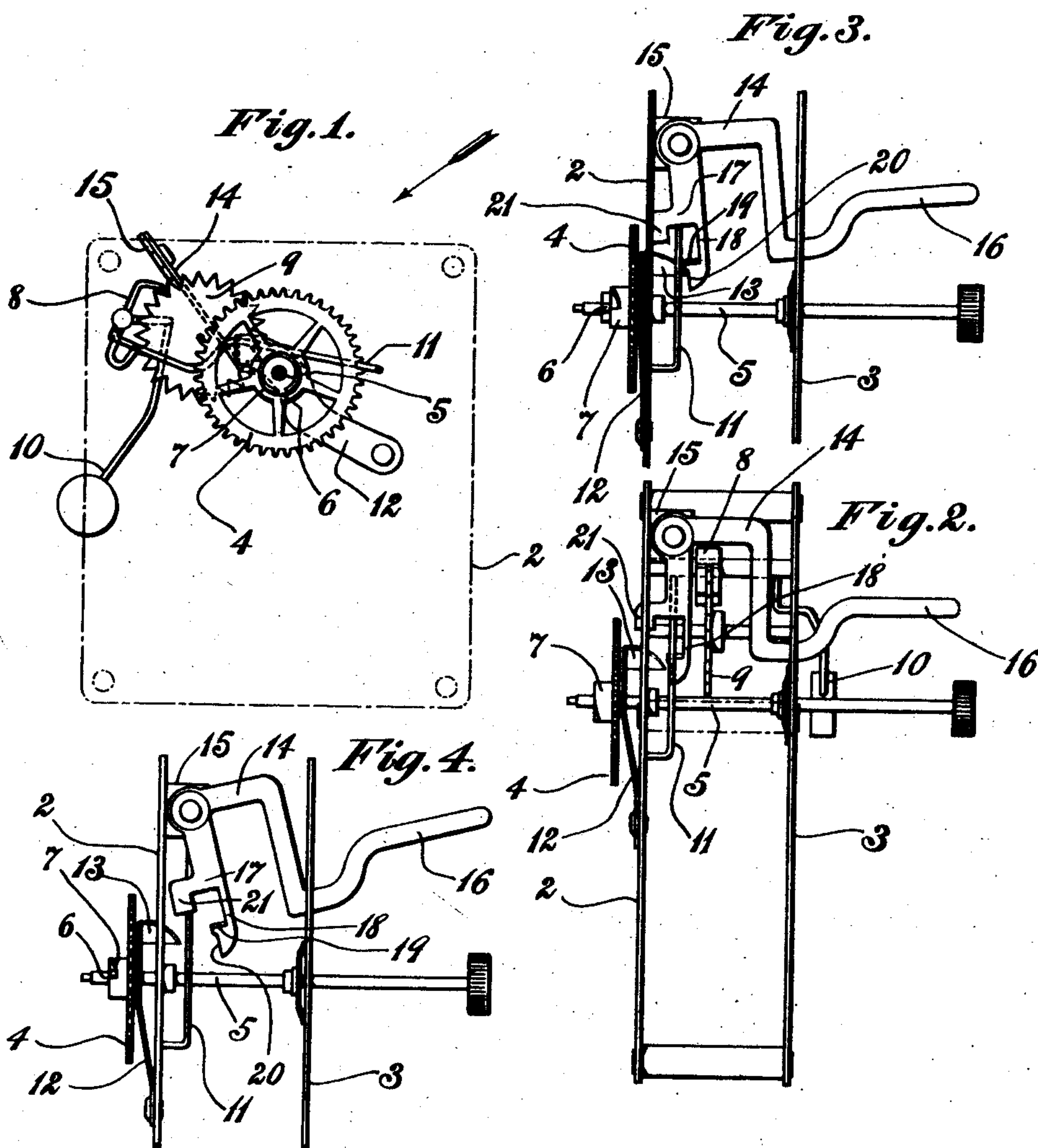


J. A. OLMSTED.  
ALARM CLOCK.  
APPLICATION FILED MAY 18, 1909.

985,693.

Patented Feb. 28, 1911.



**Witnesses:**

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# UNITED STATES PATENT OFFICE.

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## ALARM-CLOCK.

985,693.

Specification of Letters Patent.

Patented Feb. 28, 1911.

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*To all whom it may concern:*

Be it known that I, JULIUS A. OLMSTED, a citizen of the United States, residing at Meriden, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Alarm-Clocks, of which the following is a specification.

This invention relates to alarm clocks the object of the invention being to provide simple and effective means for locking or releasing the alarm mechanism at will the locking means being of such nature that the alarm mechanism may be either permanently or temporarily held against action or released.

In the drawings accompanying and forming part of the present specification I illustrate in detail one convenient form of embodiment of the invention which to enable those skilled in clock construction to practice the invention, will be fully set forth in the following description while the novelty of the invention will be covered in the claims succeeding said description.

Referring to said drawings, Figure 1 is a front elevation of a clock movement in which is embodied my invention, and, Figs. 2, 3 and 4 are diagonal, top plan views of the same as looking in the direction of the arrow in Fig. 1, the locking means being in the three different positions.

Like characters refer to like parts throughout the several figures of the drawings.

An alarm clock involving my invention comprises alarm mechanism, means for automatically releasing said alarm mechanism, and manually-operable means setttable into three different positions in two of which it is adapted to lock the alarm mechanism and in the other of which it is adapted to release said alarm mechanism, said automatic releasing means being adapted to operate said manually-operable means when the same is in one of its said locking positions and these several parts may take widely different forms. As an illustration. The alarm mechanism shown and hereinafter described comprises an oscillatory or vibratory hammer; it is conceivable that I might employ in the clock a rotary or any other type of hammer.

Referring now to the drawings for a detailed description of the clock therein partially illustrated the numeral 2 denotes the front movement plate and 3 the back move-

ment plate which are connected by pillars as is common in clock construction. As a matter of clearness I have shown only those parts of a clock which are necessary to disclose properly my invention.

As a part of the clock movement or time mechanism there is a twenty four hours wheel as 4 loosely supported by the arbor 5 and situated at the front of said plate 2. The said arbor is provided at its extreme forward end with the usual rigid finger 6 coöperative with the releasing cam 7 rigid with said wheel 4. When said finger 6 comes opposite the releasing or let off notch in said cam the wheel 4 is advanced in the well known manner to automatically release the alarm mechanism and under normal conditions when this function occurs the alarm mechanism is operated.

The alarm mechanism includes the verge 8 coactive with the escapement wheel 9 and when said alarm mechanism is released the customary spring, which I have not shown, serves to rotate the said escapement wheel 9 and the latter in turn vibrates or oscillates the verge. As a part of the alarm mechanism there is the hammer 10 and the stop wire 11 both of which are connected with said verge 8 and it follows when the verge is vibrated the hammer 10 and stop wire 11 will also be vibrated so that the hammer can sound the bell which is also not shown.

With the twenty four hours wheel 4 there is shown as connected the spring 12 which exerts a constant tendency to move said wheel forward such action being resisted by the finger 6 until at such time as the releasing notch in the cam 7 is brought opposite said finger at which point the wheel 4 is thrust forward by said spring to carry the cam head or portion 13 at the free end of said spring from under the stop wire 11 and thereby automatically release the alarm mechanism to permit the latter to act. What I have thus far briefly described is a construction common in alarm clocks.

With alarm mechanism such as that described I associate manually-operable means which can be set into three different positions. In one of these positions said means will serve to permanently lock the alarm mechanism or prevent its action so that there will be no possibility of said alarm mechanism operating even though it be automatically released. In the second locking position of said means the latter will



temporarily lock the alarm mechanism or until said locking means is shifted to its releasing position by the alarm-releasing mechanism. Said means when in its third  
 5 position will wholly release the alarm mechanism so that the same may be caused to operate each morning or at other times as may be desired. It will be assumed that the alarm has been sounded and that the user  
 10 desires to stop the same. To do so the locking means is put into its temporary locking position where it will remain until it is automatically released at the predetermined time. There may be cases, as for example  
 15 on a holiday or Sunday morning the owner of the clock may not want the alarm to ring and in this case the locking means will be shifted to its "permanent" locking position or such a one that it will not be automati-  
 20 cally shifted to its releasing position by the normal or automatic alarm releasing mechanism.

The manually-operable means is shown as consisting of a lever 14 the body of which  
 25 is represented as being of substantially U or yoke shape, the inner leg of said U-shaped body constituting the operative one. Said lever is shown as pivoted practically at the junction of its inner leg and the transverse  
 30 portion thereof, to a lug 15 on the inner side of the front movement plate 2. The outer leg of said lever or body thereof has the outwardly projecting handle portion 16 presenting an easy means by which said  
 35 lever or stop 14 may be manipulated to set the same into either of its locking positions or the releasing position.

The inner leg of the said lever 14 is provided with a forked portion 17 one branch  
 10 of which has the temporary locking means for the alarm-mechanism while the other branch has the permanent locking means for said alarm-mechanism. The branch 18 has a forwardly-extending locking or stop por-  
 5 tion 19 and the lever 14 may be so swung as to carry this locking or stop portion 19 under the stop wire 11 as shown in Fig. 2 so as to temporarily prevent the vibration of the hammer 10. When the said locking  
 10 portion 19 is in its effective position it is in the range of action of the cam head 13 so that when said cam head is retracted by the active portion of the cam 7 riding against the rigid finger 6, it will traverse  
 5 the cut-away portion 20 of said projection 19 to shift the locking lever 14 into its releasing position as shown in Fig. 3. When the lever 14 is in said releasing position the branches of the forked portion 17 will be so  
 0 placed as not to interfere with the vibration of the stop wire 11 and the consequent ringing of the bell. It will be assumed that the locking or stop lever 14 is in its temporary locking position as shown in Fig. 2. In  
 5 such an event as this the cam-head 13 will

at the time the alarm mechanism has been set to ring, move from under the stop wire 11 but the latter will be locked against movement. Beyond this point as the clock continues to operate said cam head 13 will  
 70 be restored to its normal or operative position and as it thus moves it positively shifts the lever 14 into its ineffective position.

The forward branch or arm 21 of the fork 17 is shown as being rectangular and as  
 75 adapted when said lever is shifted into its second or permanent locked position to come over the stop-wire 11 to prevent the vibration of the stop-wire 11 when the same is freed by the automatic releasing means. It  
 80 will be perceived that the branch 21 is wholly out of the range of action of the cam head 13 or any part of the automatic releasing mechanism so that when the branch or lock-  
 85 ing portion 21 is in operative position it will there stay until shifted by hand.

There may be instances where I could omit the permanent locking feature of the locking lever. In this case there would be  
 90 simply the temporary locking means and the locking device would be of such a nature still as to be shifted into its inoperative position through the action of the automatic releasing means.

From the statements already made, it will  
 95 be clear that my clock comprises alarm mechanism, a shut-off cooperative with said alarm mechanism and having two distinct alarm locking portions and an alarm releasing por-  
 100 tion, and an automatically operative resetting device for said shut-off, one of said locking portions when in effective position being in the range of action of said resetting device whereby the shut-off can be moved auto-  
 105 matically to an alarm releasing position, and the other locking portion when in its effective position being out of the range of action of said resetting device.

What I claim is:

1. An alarm clock comprising alarm  
 110 mechanism, a shut-off having two distinct alarm locking portions and an alarm releasing portion, and an automatically operative resetting device for the shut-off, one of  
 115 said locking portions when in effective position being in the range of action of said resetting device and the other locking portion when in effective position being out of the range of action of said resetting device.

2. An alarm clock comprising alarm  
 120 mechanism, a shut-off cooperative with said alarm mechanism, provided with a fork, each branch of which is provided with alarm locking means, the space between said  
 125 branches constituting an alarm releasing portion, and an automatically operative resetting device, one of said branches when in alarm locking position being in the range of action of said resetting device and the  
 130 other branch when in effective position be-

ing out of the range of action of said re-setting device.

3. An alarm clock comprising alarm mechanism, a shut-off having two distinct  
5 alarm locking portions and an alarm releasing portion, a let-off cam, and a spring for operating said cam, said spring having means for shifting one of said locking portions when in an operative position to an

inoperative position, the other locking portion being out of the path of the shifting means of the spring.

In testimony whereof I affix my signature in presence of two witnesses.

JULIUS A. OLMSTED.

Witnesses:

JOHN H. RIGNEY,  
C. H. Wood.